

Life in Motion Parkinson's Disease Fact Sheet

Overview

Parkinson's disease (PD) is a movement disorder that causes tremor, slowed movements, and stiffness, as well as many other symptoms. It is caused by loss of cells in specific parts of the brain. PD affects almost one million people in the United States, both men and women. It usually begins in a person's fifties or sixties, but it can begin as early as age 30.

Symptoms

Symptoms usually begin on one side of the body. Tremor, or shaking, is often the first symptom of PD, and usually begins in an arm or leg. Tremor is usually worse when the limb is at rest, and lessens during movement. Slowed movements and stiffness are other early symptoms. Difficulty with balance and walking often occur later. Other motor (movement) symptoms include small handwriting, a weak voice, and loss of facial expression. Non-motor symptoms may include depression, pain, fatigue, slowed thinking, and bladder difficulties. More symptoms occur as time goes on, and existing symptoms usually worsen. PD may interfere with your ability to work or pursue activities of daily living.

Diagnosis

At this time no single diagnostic test for PD is available. Your doctor will make the diagnosis based on the presence of motor symptoms, and after ruling out other possible causes for the symptoms, such as exposures to drugs or poisons, or presence of another disease. Sometimes your doctor will want to obtain an image of your brain to look for changes characteristic of PD and to see if there are any other problems that might be causing your symptoms.

Treatment

Available treatments for PD include drugs, non-drug treatments such as exercise and speech therapy, and surgery. You may not need any treatment for some months after diagnosis. Regular exercise should continue to be part of your daily routine. Treatment usually begins when your symptoms interfere with your ability to work or carry out activities of daily living.

All people with PD eventually require drug treatment. Levodopa/carbidopa (Sinemet® or Sinemet® CR) is the most effective drug. Levodopa/carbidopa is also available as an orally disintegrating tablet (Parcopa™). Many physicians begin younger patients on a dopamine agonist such as ropinirole (Requip®) or pramipexole (Mirapex®), or rotigotine (Neupro®) before beginning levodopa. Other early treatments may include an MAO-B inhibitor such as rasagiline (Azilect®) or selegiline (Eldepryl®); amantadine (Symmetrel®), or an anticholinergic such as trihexyphenidyl (Artane®). Speech therapy can be very useful for improving voice loudness. Antidepressants can often improve depression.

After three to six years of drug treatment, many patients begin to lose sustained treatment benefit. The result is increasing time spent "off," or without relief from symptoms. Increasing the amount of medication can usually minimize off time to acceptable levels for several years. After three to six years, patients often also develop uncontrolled movements called dyskinesias (diss-ki-NEE-zhas) that occur when their drug treatment is working. For patients on levodopa, a COMT inhibitor may be added to help increase the effectiveness of levodopa. These include tolcapone (Tasmar®) and entacapone (Comtan®). A combination pill is available containing levodopa and entacapone (Stalevo™). Apomorphine injectable (Apokyn™) may be used as a

rescue therapy, with a rapid return to the on state. If the combination of off time and dyskinesias becomes disabling, brain surgery may be an option for some patients.

Surgery for PD improves symptoms and reduces the need for drug treatment. There are two surgical procedures—lesioning and deep brain stimulation—and three possible target locations in the brain during PD surgery: thalamus, globus pallidum internus (GPi), and subthalamic nucleus (STN). Most PD patients receive deep brain stimulation in the STN or the GPi. Other surgery-based procedures—cell transplants, gene therapy, and neurotrophic factor delivery—remain experimental procedures for the treatment of PD.

Deep brain stimulation (DBS) uses implanted electrodes to stimulate either the STN or the GPi. The electrical stimulation interferes with the abnormal brain activity related to the movement problems, improving symptoms. The effect lasts as long as the stimulation continues. Lesion procedures (i.e., pallidotomy, thalamotomy) deliver radio-frequency energy to heat and ablate (destroy) a pea-sized region within the target region.

The symptoms of PD become worse over time. Both sides of the body are eventually affected. Drug treatment can improve many symptoms, but some non-motor symptoms do not respond as well as others. Without other treatments, these symptoms, especially depression, can be disabling. Falling can be a significant risk in later stages of the disease.

People with PD usually have several years of very good response to treatment, and are able to maintain most of their usual activities during this time. Worsening symptoms gradually reduce the ability to engage in many activities. In very advanced PD, difficulty swallowing becomes an important risk.

Questions to Ask Your Doctor

- With all the treatment choices available, why is the treatment you've prescribed the best one for me right now?
- What do you recommend for diet and exercise?
- When should I see a movement disorder specialist?
- How can I contribute to research on PD? (For more information on clinical trials on PD, visit www.pdtrials.org)

If you would like more detailed information on the symptoms, diagnosis, and treatment options or additional support (such as discussion forums and chat rooms), please visit www.wemove.org.